# 3G-SDI over IP Extender Kit with PoE

# 500756

# Operating Manual

## Overview

The 3G-SDI over IP Extender Kit with PoE (500756) can be used with or without the help of software. When use in an environment without the software the configuration can be manage using the DIP Switches of the device. When used with the software, all the management will be done with it. Independent of the way the product will be control a gigabit Ethernet switch is required. This manual will explain you how to setup correctly the Ethernet switch, how to manage the system manually and how to use the MuxLab software.

## Applications

Applications include commercial and residential AV systems, classroom projector systems, digital signage, boardroom systems, collaborative PC systems, and medical information systems.

## Configuration of the Ethernet switch

We take the assumption that the Ethernet switch will be used only for the video/audio transport of the 500756 and that no connection will be shared with the Ethernet infrastructure of the building.

When the 500756 are used in a matrix configuration it is mandatory to have an Ethernet switch with the following capability: Gigabit Ethernet, DHCP Server and IGMP. We recommend using the Cisco SG300 Series. The following section will explain you how to correctly configure the DHCP Server and enable IGMP. If you are using a different manufacturer for the Ethernet switch please look at the user manual on how to perform these steps.

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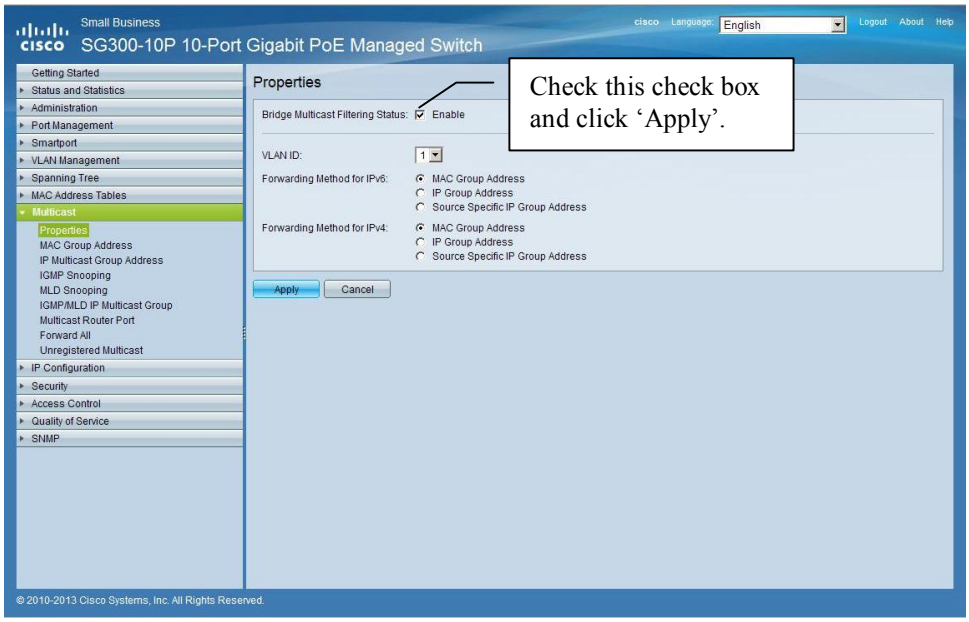
**Establishing communication with the Cisco Ethernet switch**

1. Connect your computer directly to the Cisco Switch using an Ethernet patch cord.
2. Set an Static IP for the computer network interface, like 192.168.1.2 with a mask 255.255.255.0
3. Using a browser connect to the Cisco switch. Enter the switch IP address in the address bar and press **Enter**. For example **http://192.168.1.254**. The Default User ID and Password are "cisco".

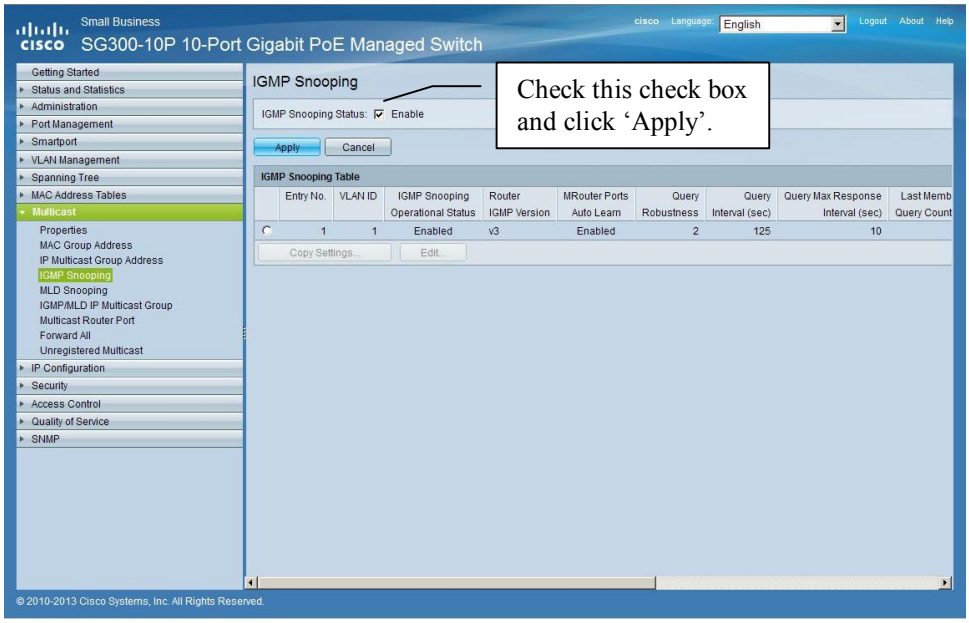
**Enabling IGMP Protocol**

The IGMP Protocol is mandatory when more than one 500756 Encoder is present on the same network. Without IGMP the video will freeze from time to time.

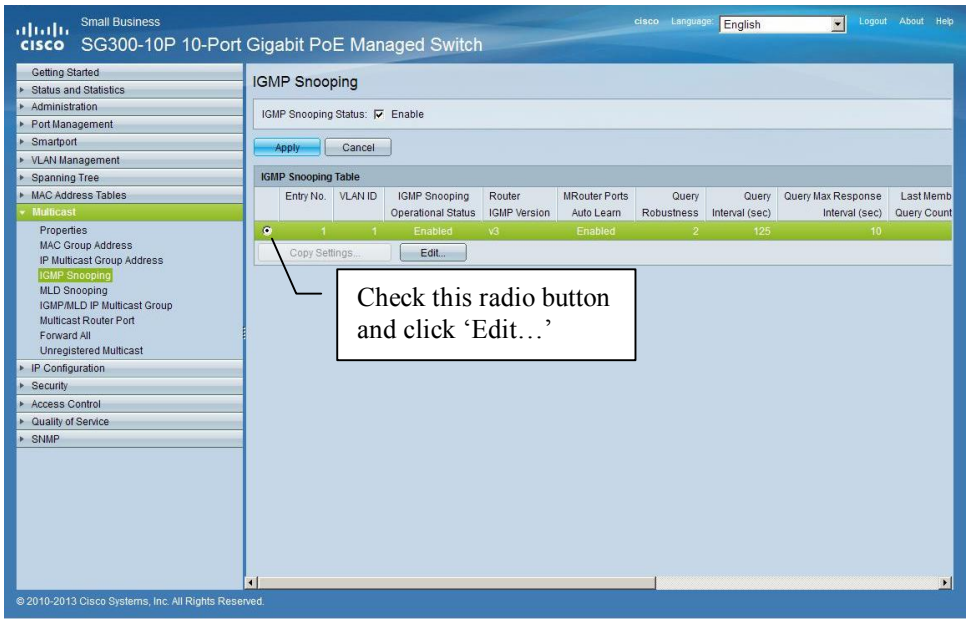
1. Select Multicast->Properties. Enable the Bridge Multicast Filtering Status by checking the check box.

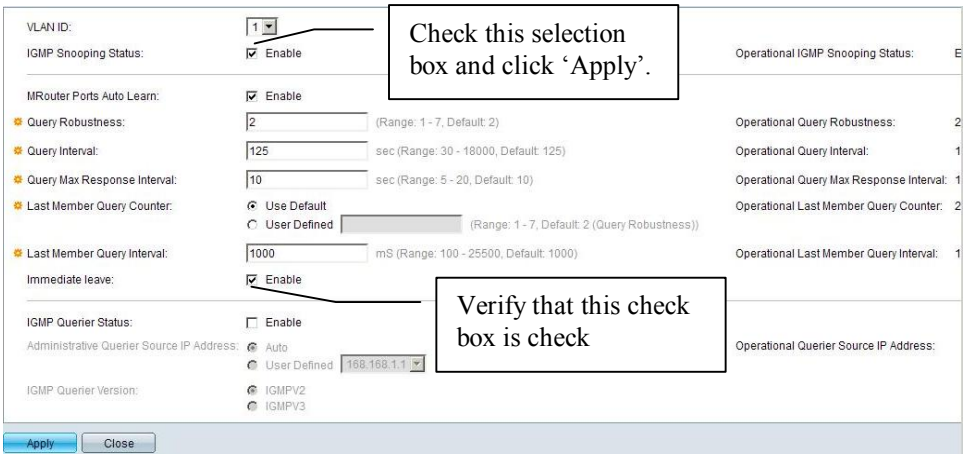



2. Select Multicast->IGMP Snooping. For the IGMP Snooping Status, check the selection box to enable it.



3. In the IGMP Snooping Table, check the radio button and click edit. In the windows you will need to check the selection box for the IGMP Snooping Status after click ‘Apply’.

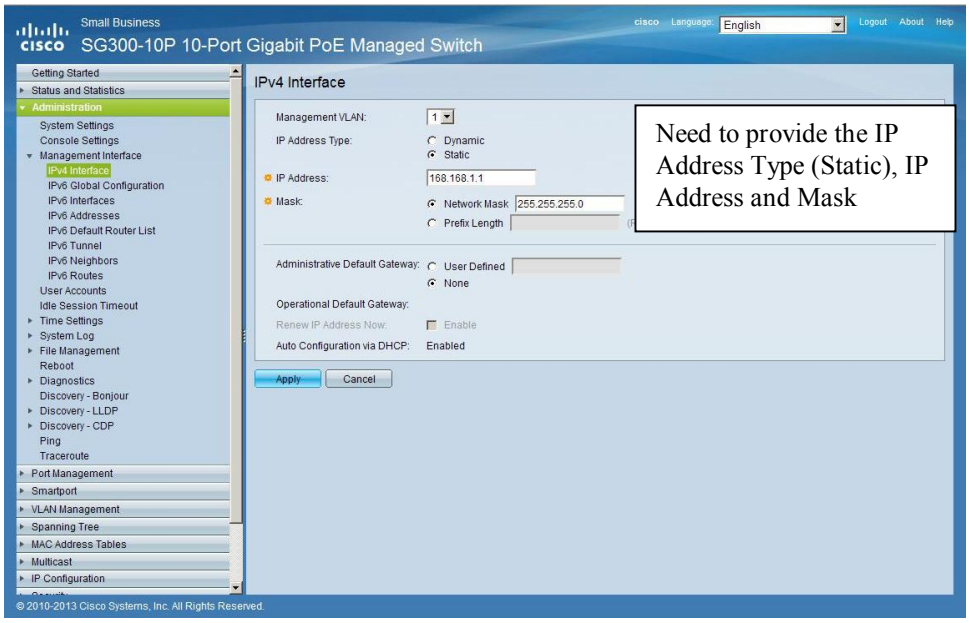




VLAN ID: 1
IGMP Snooping Status: Enable
Check this selection box and click ‘Apply’.
Operational IGMP Snooping Status:
MRouter Ports Auto Learn: Enable
Query Robustness: 2 (Range: 1 - 7, Default: 2)
Operational Query Robustness: 2
Query Interval: 125 sec (Range: 30 - 18000, Default: 125)
Operational Query Interval: 1
Query Max Response Interval: 10 sec (Range: 5 - 20, Default: 10)
Operational Query Max Response Interval: 1
Last Member Query Counter: Use Default / User Defined (Range: 1 - 7, Default: 2 (Query Robustness))
Operational Last Member Query Counter: 2
Last Member Query Interval: 1000 mS (Range: 100 - 25500, Default: 1000)
Operational Last Member Query Interval: 1
Immediate leave: Enable
Verify that this check box is check
IGMP Querier Status: Enable
Administrative Querier Source IP Address: Auto / User Defined 168.168.1.1
Operational Querier Source IP Address:
IGMP Querier Version: IGMPV2 / IGMPV3
Apply
Close

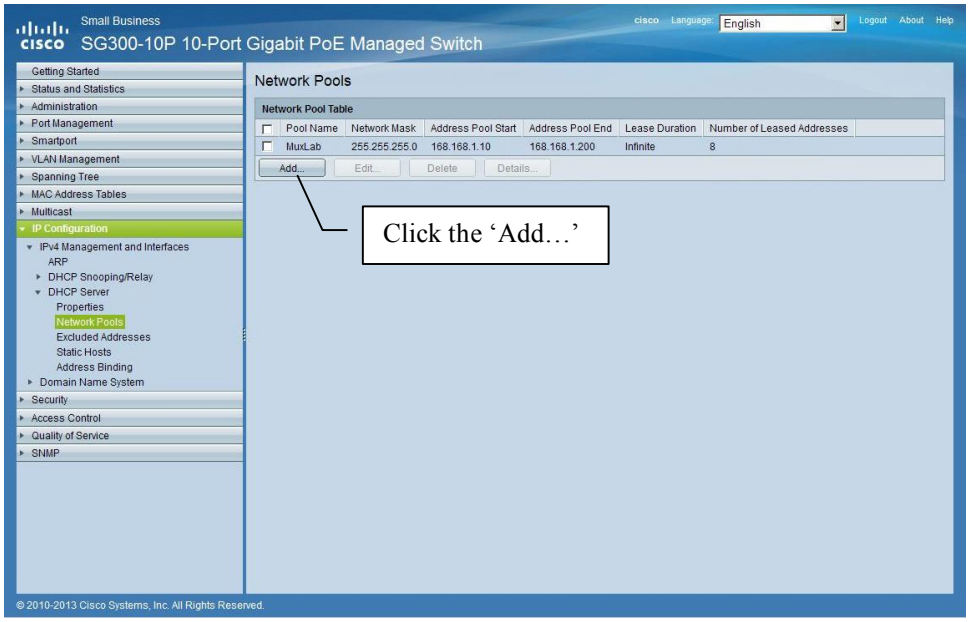
## Configuring the DHCP Server

The Ethernet Switch DHCP Server will configure automatically all the IP Addresses of the 500752 Encoder and Decoder, eliminating conflict between devices. If this functionality is absent from your Ethernet Switch you will have to use the MuxLab management software to assign static IP to each of the 500752. Before using the software, you will need to configure a static IP on the computer in the same Subnet (192.168.168.xxx) as the 500752, use 192.168.168.1.

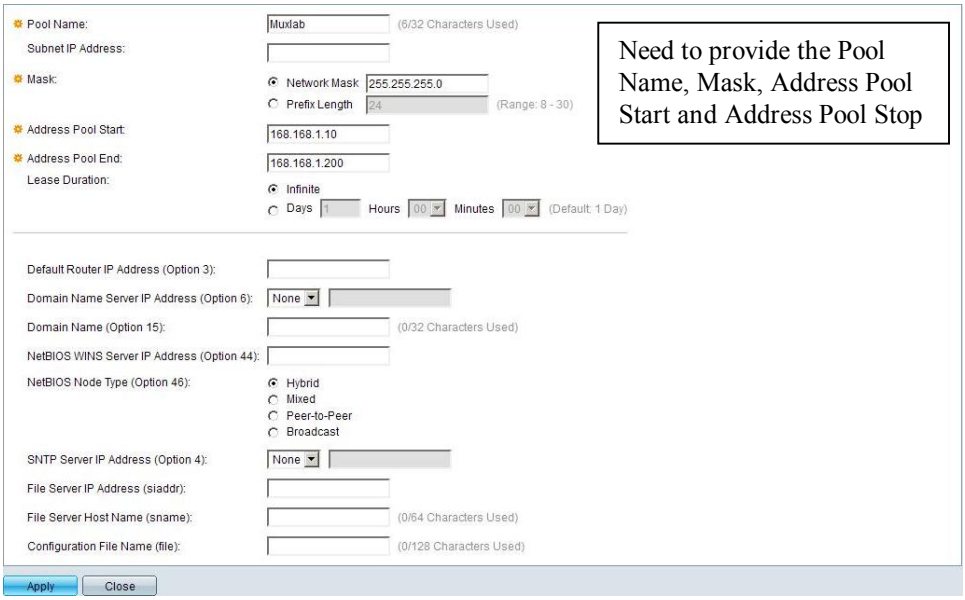
1. Select Administration->Management Interface->IPv4 Interface. Set the IP Address type like Static, set the IP Address, like 168.168.1.1 and set the Mask. After applying the setting you will need to change the IP Address of the Computer Network interface for the same subnet, take an address like 168.168.1.2. Reconnect the Cisco Web Interface using HTTP://168.168.1.1



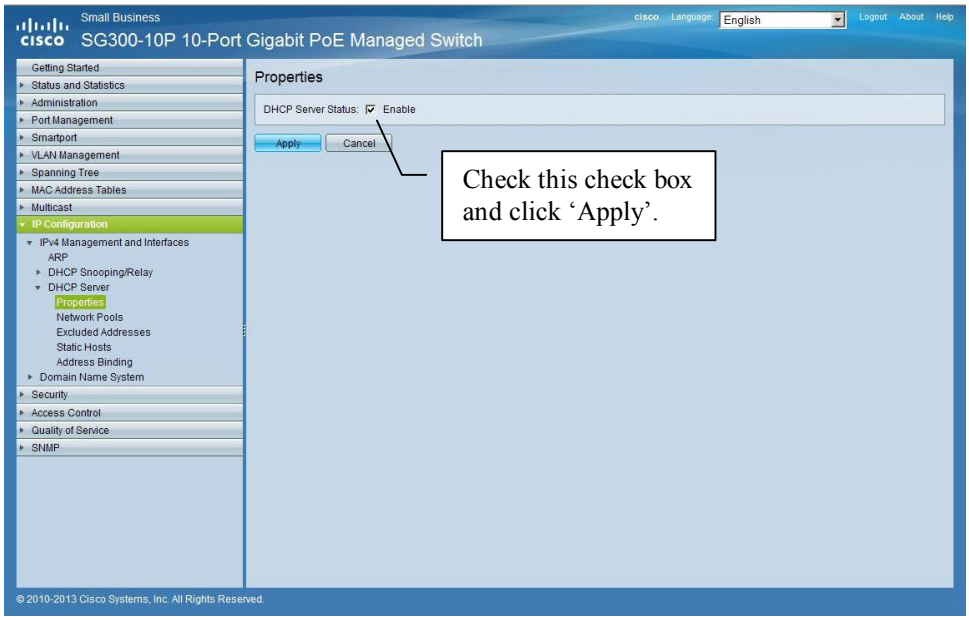

2. Select IP Configuration->DHCP Server->Network Pools. Click the 'Add..' Button.



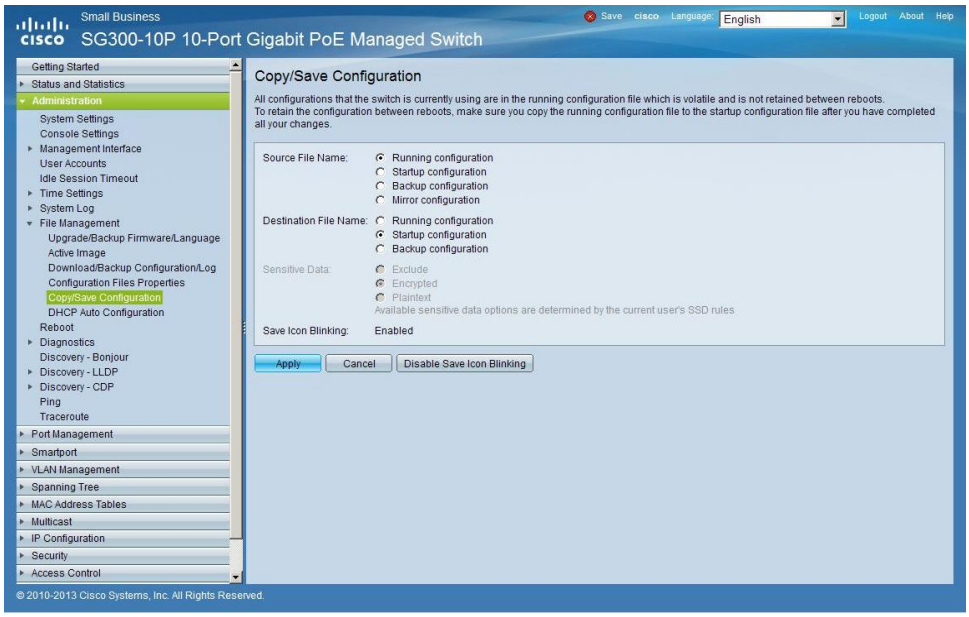
3. In the windows provide the Pool Name, Mask (255.255.255.0), Address Pool Start (168.168.1.10) and Address Pool End (168.168.1.200). Verify that you allocate enough IP Address for the Encoder and Decoder that will be present on the network.



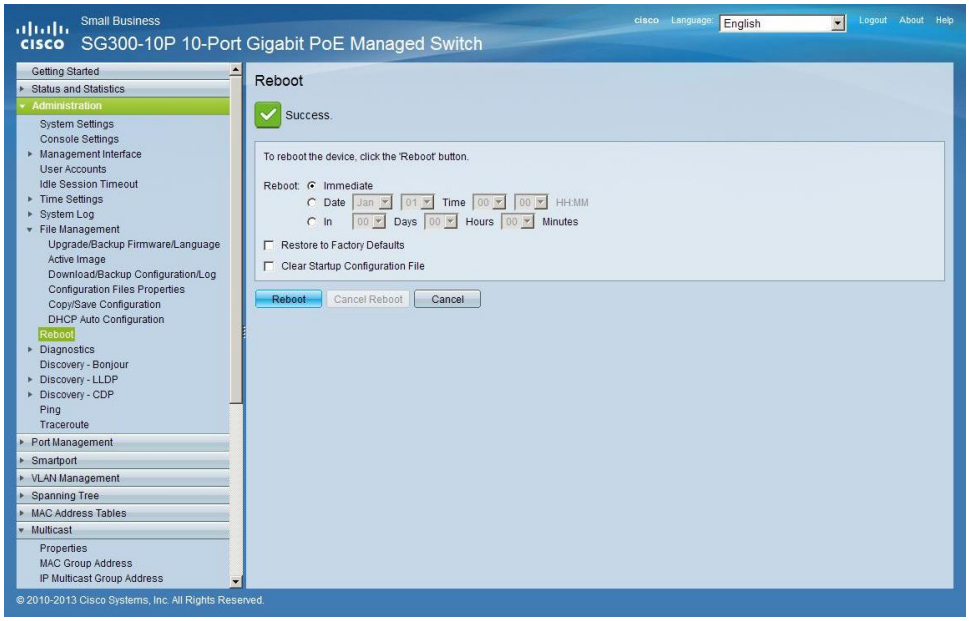

4. Select IP Configuration->DHCP Server->Properties. Enable the DHCP Server



5. Select Administration->File Management->Copy/Save Configuration. Make the changes permanent by clicking 'Apply'.




6. Select Administration->Reboot to reboot the Ethernet switch




7. If needed you can configure your computer Network Interface to obtain an IP Address Automatically and you can connect back to the Cisco Ethernet Switch using the IP Address 168.168.1.1

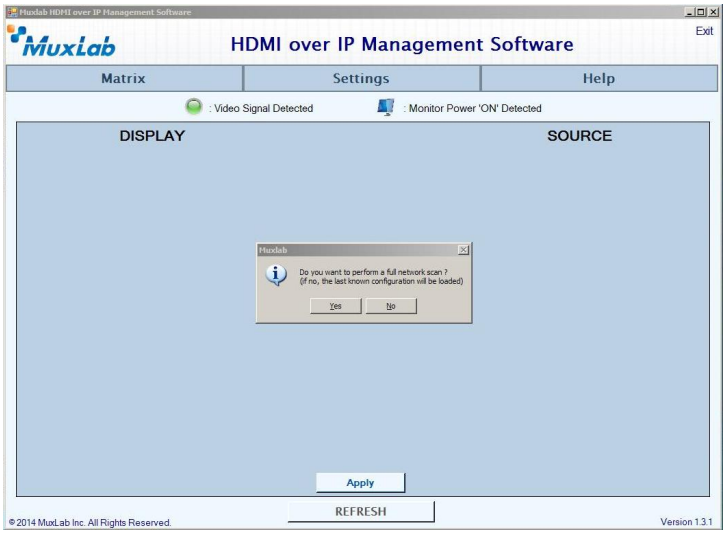
## Using the product with DIP Switches

Before installing the product to their final location it's recommended to configure the units

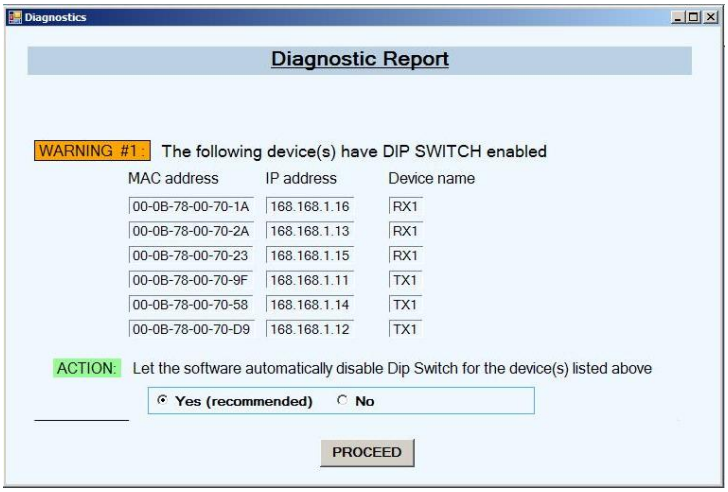
1. Configure a different address using the DIP switches for each encoder that will be present on the network. Note: It's important that each encoder have a unique address.
2. Configure each decoder using the DIP switches to select the right encoder.
3. Follow the procedure explained in the installation guide to install the units.

## Using the product with the Muxlab Software

1. Follow the procedure explained in the installation guide to install all the units.
2. Install the software on a computer that is connected on the same network as the 500756 units. Note: the computer network interface should be configured to use DHCP if a DHCP Server is present, else configure the computer network interface to use the same subnet as the 500756, like 192.168.168.1.
3. Execute the software. Click the 'Yes' button to perform a full network scan.




4. The first time the software is executed you will get a warning that all the products have the DIP Switches enable. Select 'Yes' and click 'proceed'.




5. Go to the Matrix Connection tab to do the desired connection between the 500756 Encoder and Decoder. Note: More information is available in the Software Manual.

## Troubleshooting

The following table describes some of the symptoms, probable causes and possible solutions in regard to the installation of the 3G-SDI over IP Extender Kit with PoE:

| Symptom | Probable Cause | Possible Solutions |
|---|---|---|
| Freezing Video | IGMP not enable or not working properly. | • Check the Ethernet switch configuration and enable the IGMP protocol. |
| DIP Switches not working | Unit set with DIP Switches Disable | • Use the MuxLab Software to do the connection or to re-enable the DIP Switches. |
| No Video | IP Address Conflict | • Check the Ethernet switch configuration and enable the DHCP Server. |
| Software cannot detect the 500756 | Computer not on the same network or wrong IP Address | • Check that the computer is connected to the same Ethernet switch as the 500756.<br>• Verify that the Computer Network Interface is set to obtain an IP address automatically. |
| Software update are very slow | Too much traffic on the network | • Turn off all the sources during software update. |

**If you still cannot diagnose the problem, please call MuxLab Customer Technical Support at 877-689-5228 (toll-free in North America) or (+1) 514-905-0588 (International).**

8495 Dalton Road, Mount Royal, Quebec, Canada. H4T 1V5
Tel: (514) 905-0588 Fax: (514) 905-0589
Toll Free (North America): (877) 689-5228
E-mail: videoease@muxlab.com URL: www.muxlab.com

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